mechanics with little mathematical training.   Both texts are very well illustrated, well written, and published in an attractive form, with an immense number of examples which make them very convenient for students working alone.

The two books cover a great deal of common ground.   The first is written more especially for draughtsmen and for such practical work as requires graphics. It deals with conics, graphostatics and descriptive geometry.   The second book has a broader scope and is more especially for mechanics and designers.   It contains algebra, geometry, trigonometry, vectors, and calculus.   Both books are to be recommended to the class of students which they aim to reach, and also to more advanced readers for the numerous and well chosen practical examples which they contain.

S. LEFSCHETZ.

Life Assurance Primer.   A text book dealing with the practice and mathematics of life insurance, for advanced schools, colleges and universities.   By HENRY MOIR. Third edition, revised and enlarged.   The Spectator Company, New York, 1912.   vii + 230 pages. $2.00.

In recent years, there has been a tendency both in Europe and America to extend university education to include something of the principles of insurance. This work in insurance has often taken the form of a treatment of the economics of insurance; but it has also been recognized that any substantial development of the elementary principles of insurance very naturally takes a mathematical form.   The present book is found to be very useful as a beginning text for teaching the elements of this subject.   The reviewer has used the second edition, and is at present using the third edition in a class of twenty students of junior and senior rank, and is prepared to say that he finds the book teachable.   In this last edition the material has been thoroughly revised, and much improved for purposes of university instruction.   A new chapter has been added dealing with the organization and management of a life company.   One of the new features is the introduction of questions, exercises, and problems at the end of each chapter.   This addition will surely commend itself to teachers of the subject.   The book serves well as a text for a beginning course of approximately two hours per week for a semester; and, although the reading of the book requires hardly any more mathematics than the algebra usually included in a freshman course, it is not too easy for the beginner, as a comprehension of the business situations involved requires considerable knowledge, and the expression of such situations in mathematical form requires a good deal of thought.

H. L. RIETZ.

Source Book of Problems for Geometry.   By MABEL SYKES, with the coöperation of H. E. SLAUGHT and N. J. LENNES.   Allyn and Bacon, Boston, 1912. viii + 372 pages.

The present volume is a welcome contribution to the endeavor to make the mathematical work in our schools more practical and tangible.   The belief

that mathematics is an excellent discipline has for many years removed the mathematics of the secondary schools farther and farther from the daily life and experience of the pupils. The text-books have emphasized the logical side, and have contained a large number of exercises and problems for drill and a few problems in applied mathematics which are for the most part spurious. We are, however, coming to realize in a larger measure that the great majority of boys and girls finish their education in the grammar school or the high school, and that the algebra and the geometry of the schools should prepare pupils as far as possible to do well the work that falls to them after leaving school.

In courses in architecture and design this *Source Book of Problems* meets the demand that a text-book shall have continuous and practical connection with working conditions. All of the problems have to do with real things, and are solved by the practical application of geometrical principles. The titles of the six chapters show the practical character of the book. The titles are: (1) Tile designs; (2) Parquet floor designs; (3) Miscellaneous industries; (4) Gothic tracery: Forms in circles; (5) Gothic tracery: Pointed forms; (6) Trusses and arches. The index of theorems and problems will aid the teacher in selecting the material so as to keep the logical continuity intact. In solving the problems the principles of arithmetic, algebra, and geometry are combined to such an extent that a thorough review of the former subjects is given, while the use of algebraic notation and methods makes the solutions much simpler and easier.

As a supplementary book in the high school course in geometry this text will, in the writer's opinion, prove of great value. Geometrical forms occur so frequently in tiles, mosaics, needlework, jewelry, iron grills, steel ceilings, tracery of windows and other architectural forms that a study of these forms will add greatly to the interest of geometry. Moreover it will be a pleasure to recognize known geometrical forms in architectural details which meet the eyes daily but have failed to attract attention.

The historical accounts of the various designs and the pictures of windows and other architectural details of famous buildings are of general educational value. There are over 1,800 exercises, and many of these are general problems from which it is possible to form any number of numerical problems. The drawings and illustrations number more than 450; they are well drawn and reproduced on excellent paper. The extensive bibliography and list of commercial catalogues enables the teacher to secure additional material if desired. The author, editors and publishers are to be congratulated on the appearance of this book.

H. E. COBB.